

ONLINE PURCHASE SYSTEM

**A project submitted to the Graduate School in partial
Fulfillment of the requirements for the degree
Master of Science (Information Technology)
Universiti Utara Malaysia**

**by
Tan Hong Giap**

© Tan Hong Giap, 2001. All rights reserved.



**Sekolah Siswazah
(Graduate School)
Universiti Utara Malaysia**

**PERAKUAN KERJA KERTAS PROJEK
(Certification of Project Paper)**

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

TAN HONG GIAP

calon untuk Ijazah
(candidate for the degree of) Sarjana Sains (Teknologi Maklumat)

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

ONLINE PURCHASE SYSTEM

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan,
dan meliputi bidang ilmu dengan memuaskan.
(that the project paper acceptable in form and content, and that a satisfactory
knowledge of the field is covered by the project paper).

Nama Penyelia
(Name of Supervisor) : Prof. Madya Shahrum Hashim

Tandatangan
(Signature)

Tarikh
(Date)

: 10 - 10 - 2001

PERMISSION TO USE

In presenting this project in partial fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this project in any manner, in whole or in part, for scholarly purposes may be granted by my supervisor(s) or, in their absence, by the Dean of the Graduate School. It is understood that any copying or publication or use of this project or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my project.

Request for permission to copy or to make other use of material in this project, in whole or in part, should be addressed to:

Dean of Graduate School

Universiti Utara Malaysia

06010 UUM Sintok

Kedah Darul Aman

ACKNOWLEDGEMENTS

This project is carried out as part of the requirements in completing the MSc(IT) with Universiti Utara Malaysia. I am indebted to many people for helping and supporting me for doing this project. I would like to take this opportunity to express my greatest thanks to all of them, in particular Professor Madya Shahrum Hashim. He provided many useful comments on earlier drafts of this project and many useful suggestions throughout the progress of the project. I would also like to express my heartfelt thanks to my family members especially my wife, S.C. Thong, in supporting me throughout this project.

ABSTRACT

e-Commerce is an important information technology tool for today's business. Web-based business has been built to have goals of reducing the cost of organization operation and increasing profit. It also provides excellent support for customers and builds a good customer relationship. This paper is to build a portion of an online purchase system, focusing on the purchase requisition system. The system also adopts a new technology called XML for the web advantage. As a result, the project evaluates the combination of the XML technology and the purchase requisition system.

ABSTRAK

e-Commerce menjadi semakin penting dalam bidang teknologi informasi demi perniagaan pada masa kini. Perniagaan yang menggunakan kebaikan web adalah untuk mengurangkan kos operasi organisasi and dengan itu dapat meningkatkan untung. Ia juga memberi penyokongan kepada pelanggan-pelanggan and dapat membina perhubungan antara pelanggan-pelanggan. Projek ini adalah membina sebahagian daripada 'online purchase system', di mana memberi focus kepada 'online purchase requisition system'. Sistem ini juga menggunakan teknologi baru, XML untuk tujuan faedah dari segi web. Projek ini menilai kombinasi teknologi XML dan 'purchase requisition system'

TABLE OF CONTENTS

PERMISSION TO USE.....	I
ACKNOWLEDGEMENTS	II
ABSTRACT.....	III
ABSTRAK	IV
TABLE OF CONTENTS	V
TABLE OF FIGURE	VIII
LIST OF TABLES	IX
CHAPTER 1. INTRODUCTION.....	1
1.1. BACKGROUND.....	1
1.2. PROBLEM STATEMENT	6
1.3. OBJECTIVE	6
1.4. SCOPE OF THE PROJECT	7
1.5. SIGNIFICANCE OF THE PROJECT.....	7
CHAPTER 2. LITERATURE REVIEW	8
CHAPTER 3. METHODOLOGY	13
3.1. UNIFIED MODELING LANGUAGE (UML) ON DOCUMENTATION	13
3.2. ANALYSIS AND DESIGN PHASES IN THE PROJECT	14
3.3. CLIENT SIDE SCRIPT	15
3.4. CLIENT SIDE DATA BINDING	16
3.5. TOOLS TO BE USED	18
3.5.1. Hardware.....	18
3.5.2. Software	20
CHAPTER 4. FINDING	22
4.1. ANALYSIS PHASE	22

4.1.1.	Workflow Diagram	22
4.1.2.	User Case diagram	23
4.1.3.	Entity Relationship Diagram.....	25
4.2.	DESIGN PHASE	27
4.2.1.	Authentication.....	27
4.2.2.	State Transition Diagram	30
4.2.3.	Activity Diagram	35
4.2.4.	Sequence Diagrams.....	39
4.2.5.	Entity Relationship Diagram (Normalized).....	42
4.2.6.	Data Dictionary	44
4.2.7.	Cascading Style Sheet.....	45
4.2.8.	Use of XML SPY to create XML format and Schema	46
4.2.9.	XML and ADO and SQL Server 2000	51
CHAPTER 5. CONCLUSION		52
5.1.	CONSTRAINT	52
5.2.	SUGGESTION	54
BIBLIOGRAPHY		55
APPENDIX 1 DATA DICTIONARY		56
APPENDIX 2 ACTIVITY DIAGRAMS		58
APPENDIX 3 MAIN SOURCE CODE		60
3.2	DEFAULT.HTM.....	60
3.3	BODY.HTM	60
3.4	HEADER.HTM	61
3.5	SIDENAVIGATOR.HTM.....	62
3.6	MENU.ASP.....	63
3.7	LOGOUT.ASP	67
APPENDIX 4 INCLUDE FILE.....		68
4.2	DBOPEN.ASP.....	68
4.3	STANDARDSTYLE.CSS.....	68

4.4	FUNCTION_SQL.INC	71
4.5	DOCPAGING.INC	71
4.6	VENDORXML.ASP	81
4.7	POUPDATE.ASP	83
4.8	POXML.ASP	85
4.9	PRAPPROVELIST.ASP	87
4.10	PRFORPOLIST.ASP	88
4.11	PRLIST.ASP	90
4.12	PRODUCT.ASP	92
4.13	PRSAVE.ASP	93
4.14	PURCHASEORDERLIST.ASP	101
4.15	PURCHASEREQUEST.ASP	103
4.16	REQUESTAPPROVE.ASP	105
4.17	REQUESTTOPO.ASP	107
4.18	USERADOXML.ASP	111
4.19	USERSAVE.ASP	111
4.20	USERUPDATE.ASP	113
4.21	USERXML.ASP	116
4.22	VENDORLIST.ASP	117
4.23	VENDORNEW.ASP	119
4.24	VENDORSAVE.ASP	123
4.25	VENDORUPDATE.ASP	127
4.26	VENDOR.XML	131

TABLE OF FIGURE

FIGURE 1 PURCHASING FORM	9
FIGURE 2 PURCHASING PRO 2000 INTERFACE	11
FIGURE 3 DATA BINDING IN CLIENT SIDE	17
FIGURE 4 WORKFLOW DIAGRAM	22
FIGURE 5 PR USER CASE DIAGRAM	24
FIGURE 6 ENTITY RELATIONSHIP DIAGRAM BEFORE NORMALIZATION	26
FIGURE 7 USER LOG IN	28
FIGURE 8 MENU PAGE	29
FIGURE 9 USER INTERFACE FOR DATA ENTRY	30
FIGURE 10: CREATE AND MODIFY PURCHASE REQUISITION	31
FIGURE 11: CREATE AND MODIFY VENDOR	32
FIGURE 12 APPROVE OR REJECT REQUEST	33
FIGURE 13 GENERATE PURCHASE ORDER	34
FIGURE 14 CREATE AND MODIFY VENDOR AND PRODUCT ACTIVITY DIAGRAM	37
FIGURE 15 CREATE AND MODIFY PURCHASE REQUISITION ACTIVITY DIAGRAM	38
FIGURE 16 CREATE OR MODIFY VENDOR AND PRODUCT SEQUENCE DIAGRAM	40
FIGURE 17 MODIFY AND INSERT PURCHASE REQUISITION SEQUENCE DIAGRAM	41
FIGURE 18 ENTITY RELATIONSHIP DIAGRAM FOR PR SYSTEM	43
FIGURE 19 APPROVE AND REJECT REQUISITION ACTIVITY DIAGRAM	58
FIGURE 20 GENERATE PURCHASE ORDER ACTIVITY DIAGRAM	59

LIST OF TABLES

TABLE 1 POMASTER TABLE 44

TABLE 2 PODetail TABLE..... 45

TABLE 3 PRODUCT TABLE..... 56

TABLE 4 REQUESTDetail TABLE 56

TABLE 5 REQUESTMASTER TABLE..... 56

TABLE 6 USER TABLE 56

TABLE 7 VENDOR TABLE 57

CHAPTER 1. INTRODUCTION

1.1. Background

'Electronic commerce', or more commonly call e-Commerce, is a relatively new concept and the definitions of the term vary. Common to all definitions is the notion of buying and selling goods and services, and transferring funds, via electronic communications. Broader definitions of 'electronic commerce' include all internal and external business functions such as marketing, finance and human resources that use electronic communications. Specifically included in some definitions of 'electronic commerce' are the World Wide Web and the Internet.

Electronic commerce has the potential to affect all organizations. However, most people would typically associate the concept with the private sector organizations that sell goods or services. The best example of this is the recent flourish of Internet companies listing on the Australian Stock Exchange. These companies are for the most part are taking traditional goods or services such as books, travel and telecommunications and then selling or marketing directly to customers over the World Wide Web.

The Purchase requisition system is one the potential applications in e-commerce. Purchase requisition is used to request the acquisition of goods and services and is a procedural method by which departments may request the purchase of goods and services that require processing by the procurement services, usually because of the dollar value, the nature of the purchase, or the type of goods and services.

Some organizations have the policy that purchase requisitions are being used to order goods or services that cannot be ordered with a

The contents of
the thesis is for
internal user
only

BIBLIOGRAPHY

ASNA. *Introduction to Active Server Pages*. http://support.asna.com/kb/documentation/help_files/Web_Smarties/webhelp/webtutor/webtutor_introduction_to_active_server_pages.htm

BDR Systems, Inc. *Purchasing Pro 2000*. <http://www.bdrsistemas.com/purch.html> P.O. Box 312, Downingtown PA, 19335

Buz Warmkessel. *Introduction to Active Server Pages - Understanding ASP basics*. 6/1/98. <http://www.ahref.com/guides/technology/199806/0601buz.html>

George Lindley, Richard Collet-Fenson, <http://www.eng.cam.ac.uk/admin/requisitions/>. University of Cambridge

Homer, A. et al. (2000), *Professional ASP XML*, Wrox Press Ltd. <http://www.virginia.edu/procurement/departments/PurchaseRequisitions.html>, University of Virginia

Kendall, K.E. and Kendall, J. E. (1998) *System Analysis and Design*, Prentice Hall International, Inc.

Laurent, S. S., & Cerami, E. (1999). *Building XML Applications*. New York: McGraw-Hill.

Martin, D. (2000), *Professional XML*, Wrox Press Ltd.

Payne, Chris (2001) *Sams Teach Yourself ASP.NET in 21 Days*, SAMS Publishing, Indianapolis, Indiana, USA.

Purchasing Bankcard Program - Electronic Purchase Request System - Quick Reference Card. <http://cfo.arc.nasa.gov/BC/epr.htm#What>

Robert. NOTEbookS OnLine Catalog - Library Automation Software That Runs on Lotus Notes Robert A. Schless & Co. Inc. <http://www.rasco.com/prod1.html>

Sturm, Jake (2000), *Professional VB6 UML – Design and Development*, Wrox Press Ltd.